



1 **EC-TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use**
3 **in Potentially Explosive Atmospheres**
4 **Directive 94/9/EC**

5 EC-Type Examination Certificate Number : **BAS99ATEX7066**

6 Equipment or Protective System: **THE RANGE OF IIB ISOLATED SOLENOID DRIVERS**

7 Manufacturer: **WEIDMÜLLER LTD**
8 **INTRINSIC SAFETY AND ELECTRONICS DIVISION**

9 Address: **West Malling, Kent, ME19 6EX**

10 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

11 The Electrical Equipment Certification Service, notified body number 600 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

12 The examination and test results are recorded in confidential Report No

98(C)0796 dated 13 July 1999

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:


EN 50014: 1997 EN 50020 1994

except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment or protective system.

12 The marking of the equipment or protective system shall include the following:-

 II [1] G [EEx ia] IIB (-20°C ≤ T, ≤ 60°C)

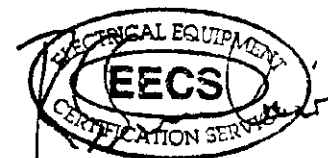
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File No: EECS 0932/02/024

This certificate is granted subject to the general conditions of the Electrical Equipment Certification Service. It does not necessarily indicate that the apparatus may be used in particular industries or circumstances.



Electrical Equipment Certification Service
Health and Safety Executive
Harpur Hill, Buxton, Derbyshire. SK17 9JN. United Kingdom
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I M CLEARE
DIRECTOR
6 April 1999

Re-issued 13 July 1999 to replace original



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Schedule

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EC-TYPE EXAMINATION CERTIFICATE N° BAS99ATEX7066

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Description of Equipment or Protective System

The Range of IIB Isolated Solenoid Drivers are designed for mounting within a safe area, as an interface between safe area and hazardous area apparatus.

The solenoid driver safe area circuit is protected from thermal damage by a fuse protected crowbar circuit and fuse protected zener diodes and resistors for the control and override functions, if appropriate. The circuit contains a transformer and one or two optocouplers which provide galvanic isolation across the driver. The hazardous area output voltage is clamped at the terminals by duplicated zener diode chains and the output current is limited by current limiting resistors.

The units considered are electrically similar, but have functional differences. The WIS1213 is the basic single channel model, the WIS1216 is a single channel model with direct control and override and the WIS1219 is a single channel model with reversible control and override.

The solenoid drivers use surface mounted components mounted on a glass fibre printed circuit board. A further glass fibre printed circuit board mounted at right angles to the main board connects to the terminals. The solenoid driver circuit is housed within an outer plastic enclosure which provides a degree of protection of at least IP20, is fitted with terminals and incorporates a universal mounting foot.

Types WIS1213, WIS1216 & WIS1219 - Safe Area Terminals 11, 12, 21, 22 & 41

$U_m = 250V$ d.c. or r.m.s.

For all IIB Single Channel Units - Hazardous Area Terminals 13, 14 & 44

Type	U_o	R_o	I_o	P_o
WIS1213	26.5V	147R	181mA	1.2W
WIS1216	26.5V	147R	181mA	1.2W
WIS1219	26.5V	147R	181mA	1.2W

CABLE PARAMETERS

The Capacitance and either the Inductance or Inductance to Resistance (L/R) Ratio of the cables connected to the output terminals of the Solenoid Drivers should not exceed the following values:-



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For WIS1213, WIS1216 & WIS1219- Hazardous Area Terminals 13, 14 & 44

GROUP	CAPACITANCE in μF	INDUCTANCE in mH	OR	L/R RATIO in $\mu H/ohm$
IIB	0.73	4.47		126
IIA	2.45	9.16		256

16.

Report No.

98(C)0796

17.

Special Conditions For Safe Use

None

18.

Essential Health and Safety Requirements

ESSENTIAL HEALTH & SAFETY REQUIREMENTS not covered by Standards at (9)		
Clause	Subject	Compliance
1.0.4	Surrounding area conditions	See Report 98(C)0796 Clause 6
1.0.5	Marking	See Report 98(C)0796 Clause 6
1.0.6	Instructions	See Report 98(C)0796 Clause 6
1.1.3	Changes in characteristics of materials and combinations thereof	See Report 98(C)0796 Clause 6
1.2.2	Components for incorporation or replacement	See Report 98(C)0796 Clause 6
1.2.4	Dust deposits	See Report 98(C)0796 Clause 6
1.2.5	Additional means of protection	See Report 98(C)0796 Clause 6
1.2.7	Protection against other hazards	See Report 98(C)0796 Clause 6
1.3.1	Hazards arising from different ignition sources	See Report 98(C)0796 Clause 6
1.4.2	Withstanding attack by aggressive substances	See Report 98(C)0796 Clause 6
1.6.4	Hazards arising from connections	See Report 98(C)0796 Clause 6
2.1.1	Category 1G	See Report 98(C)0796 Clause 6

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DRAWINGS

Number	Issue	Date	Description
*ST2978	B	12/5/99	Single Channel IIC/IIB Circuit Diagram
*ST2973	B	12/5/99	Single Channel IIC/IIB Main p.c.b.
ST2979	B	12/5/99	Single Channel IIB Main Assembly
*ST2975	A	10/08/98	Sub Board p.c.b.



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Number	Issue	Date	Description
**ST2949	A	19/01/99	Multilayer Transformer
***ST2867	A	07/02/97	Marking / Printing Details
***ST2873	A	16/04/97	Terminal details
*ST3002	A	10/02/99	EG12 Housing with mounting spigots

*These drawings are held with BASEEFA Certificate No. BAS99ATEX7065

**This drawing is held with BASEEFA Certificate No. BAS98ATEX7327

***These drawings are held with BASEEFA Certificate No. Ex 97D2111

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BASEEFA List Keywords
2ISOLBAR